

Highlights

IT and the Economy

- ◆ **The Internet and the World Wide Web are expanding rapidly, domestically and internationally.** The number of Internet hosts (computers connected to the Web) has grown from about 1 million in 1992 to 60 million in mid-1999. The United States is second to Finland in the number of Internet hosts per capita.
- ◆ **The information technology (IT) industry has contributed substantially to U.S. economic performance.** Growth in the IT industry contributed an estimated 29 percent of growth in real Gross Domestic Income in 1998. Declining prices in IT-producing industries contributed to reduced inflation in the overall economy.
- ◆ **Internet-based electronic commerce is growing rapidly and changing the impact of IT on the economy.** Private market research firms estimated that the value of transactions conducted over the Internet will reach \$1 trillion by 2003 (up from \$40–100 billion in 1998).
- ◆ **Electronic commerce is encouraging international efforts to develop more consistent and predictable legal regimes.** National and subnational laws and regulation come into conflict on the Internet in intellectual property, privacy, content, and other areas.
- ◆ **An increase in income inequity has coincided with the computerization of the workplace.** IT appears to have increased the demand for high-skill jobs in absolute terms as well as relative to low-skill jobs.
- ◆ **There has been a strong growth in the demand for workers with IT skills.** The Bureau of Labor Statistics projects that more than 1.3 million new computer scientists, computer engineers, systems analysts, and computer programmers will be needed between 1996 and 2006.

IT, Education, and Knowledge Creation

- ◆ **Schools are rapidly connecting to the Internet.** By 1998, 89 percent of public schools were connected to the Internet (up from 35 percent in 1994). In 1998, 51 percent of instructional rooms in public schools were connected to the Internet—up from 3 percent in 1994 and 27 percent in 1997.
- ◆ **Colleges are increasingly using IT in instruction.** The percentage of college courses using e-mail, Internet resources, class Web pages, and other forms of information technology in instruction increased rapidly between 1994 and 1998.
- ◆ **The effectiveness of information technology in education is still unclear.** Many studies show that information technology has positive effects on learning, but its cost-

effectiveness relative to other investments in education is less clear.

- ◆ **Distance education using information technology is expanding rapidly and opens educational opportunities for nontraditional students.** It also raises new issues regarding ownership of intellectual property rights in instructional material and concerns about the future of traditional education.
- ◆ **Electronic scholarly communication is expanding rapidly.** The number of electronic journals doubled between 1996 and 1997. Preprint servers have proven to be very efficient modes of scholarly communication and have become major modes of communications in some fields.
- ◆ **The amount of information on the World Wide Web is approaching the amount of text in the largest libraries.** The World Wide Web was estimated to contain 6 trillion bytes of text in February 1999—equivalent to 6 million books. About 6 percent of Web servers are based at universities, colleges, or research laboratories.
- ◆ **IT is increasingly important in research.** In addition to the traditional use of computing in the physical sciences and engineering, information technologies are having increasing impact in biology (especially genomics) and are providing new tools for research collaboration.

IT and the Citizen

- ◆ **Home access to personal computers and the Internet is increasing rapidly.** The percentage of U.S. households owning a home computer increased from 24 percent in 1994 to 42 percent in 1998. The percentage of households with access to the Internet increased from 2 percent in 1994 to 26 percent in 1998.
- ◆ **There are differences in home adoption of IT by income level, race/ethnicity, and geographic location.** People who are more affluent, more highly educated, and in higher-status occupations are more likely to have home personal computers and Internet access. Even after controlling for differences in income, blacks lag whites in ownership of home computers and in linking to the Internet.
- ◆ **Home use of the Internet is primarily for e-mail and World Wide Web activity.** Health and medicine are the most popular Internet subjects.
- ◆ **Governments around the world are using the Internet and the World Wide Web to communicate with constituencies.** Most countries have Web sites for some of their agencies. Almost 40 had Web sites for 70 percent or more of their top-level agencies.